

Impact of early potato desiccation method on crop growth, skinning injury, and storage quality maintenance

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Abstract

Identifying potato canopy defoliation methods that enhance tuber shelf-life is critical, particularly with increased quality losses in early potato production. Studies combining the evaluation of herbicides' efficacy as desiccants and the comparison to mechanical vine kill can guide producers to strategically manage canopy desiccation. Five desiccation programs were tested during the Spring of 2017 and 2018 in Hastings, FL to (i) evaluate the efficacy of harvest-aid herbicides and mechanical defoliation on 'Red LaSoda' canopy desiccation rate, tuber yield, internal quality, and postharvest quality maintenance; and (ii) quantify the contribution of these desiccation methods to tuber skinning injury and peel resistance to excoriation. Slow and fast acting harvest-aid herbicides promoted similar desiccation rates 14 days after herbicide application. Vine killing methods led to similar influence on tuber physiology, with no differences in yield and tuber size distribution. The incidence of skinning injury was greatly reduced when desiccation programs were utilized, regardless of the type. Findings suggest that adoption of desiccation methods, both chemical and mechanical, were comparably effective at decreasing skinning injury and increasing tuber storage quality.